

Forests

HEALTHY MOUNTAIN FORESTS ARE CRUCIAL TO THE ECOLOGICAL HEALTH OF THE WORLD. THEY PROTECT WATERSHEDS THAT SUPPLY FRESHWATER TO MORE THAN HALF THE WORLD'S PEOPLE. THEY ALSO HARBOUR UNTOLD WILDLIFE, PROVIDE FOOD AND FODDER FOR MOUNTAIN PEOPLE AND ARE IMPORTANT SOURCES OF TIMBER AND NON-WOOD PRODUCTS. YET IN MANY PARTS OF THE WORLD MOUNTAIN FORESTS ARE UNDER THREAT AS NEVER BEFORE. PROTECTING THESE FORESTS AND MAKING SURE THEY ARE CAREFULLY MANAGED IS AN IMPORTANT STEP TOWARDS SUSTAINABLE MOUNTAIN DEVELOPMENT.

DEFORESTATION, POPULATION GROWTH AND POVERTY

In the last decade, tropical mountain forests have been disappearing at an astounding rate. Deforestation, while a complex phenomenon, is generally driven by population growth, uncertain land tenure, inequitable land distribution and the absence of strong and stable institutions.

For example, in Southeast Asia and China, settlers escaping crowded lowland cities typically move "uphill", pushing upland farmers, whose land occupancy is already uncertain, higher into mountain forests. These new settlers, in turn, clear forests and threaten the livelihoods of mountain people. In the Andes and African highlands, the story is somewhat different but the root causes are much the same. After centuries of population growth and intensive land use, mountain forests have been reduced to small patches of green. In this case,

the movement is reversed: mountain people flee "downhill", where they face even greater hardships as they struggle to survive on less productive lowlands.

Some forestry and agricultural practices that are unsustainable contribute to deforestation by increasing hillside erosion, threatening mountain biodiversity and impairing the natural processes of forest ecosystems. Indeed, the destabilization of mountain forests creates an ever-escalating spiral of destruction. For example, when too many trees are cut, runoff and soil erosion increase at rates 20 to 40 times faster than soil can be stabilized, impairing water quality in streams and rivers and harming fish and other aquatic species. As more land is degraded, it increases the likelihood of natural hazards, such as avalanches, landslides and floods.

EMPOWERING MOUNTAIN PEOPLE

Too often, policies and decisions concerning the management of mountain forests are made from afar, leaving those who live in mountain communities with the least amount of power and influence. This is one of the reasons that large numbers of mountain people live in poverty. According to the World Bank, one-quarter of the world's poor depend directly or indirectly on forests for their livelihood.

Putting power back into the hands

of mountain people is one important step towards alleviating their poverty and, in turn, protecting mountain forests. Measures that could accomplish these aims include reinvesting forest revenues in mountain communities and their resources, supporting community-based property rights, decentralizing power and accountability, building alliances and fostering a complementary middle ground between local knowledge and scientific understanding.



We are all
mountain people

www.mountains2002.org

Key facts

- ▲ Mountain forests stretch over 9 million square kilometres, representing 28 percent of the world's closed forest area. Almost 4 million square kilometres of mountain forests are found above 1 000 metres.
- ▲ Over 4 million square kilometres of mountain forests are comprised of coniferous needle-leaf species. The remainder are broad-leaved, including about 2 million square kilometres of moist tropical forest.
- ▲ The "quenal" is the world's highest growing tree, found at an altitude of nearly 5 000 metres in the Peruvian Andes. Only 2 percent of the area once covered by these trees remains.
- ▲ While forests in the mountains of developing countries are generally decreasing in area, those in many industrial nations are expanding. Switzerland's forest area, for example, has increased by 60 percent since a period of extreme deforestation in the 1860s.
- ▲ As of the year 2000, 149 countries were involved in international initiatives to develop and implement sustainable forest management practices.
- ▲ FAO's Global Forest Resources Assessment Programme uses remote sensing and spatial information mapping to monitor the state of the world's forest ecosystems. It recently released the Global Forest Resources Assessment 2000 report for the period 1990 to 2000.

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[www.fao.org/forestry/foris/
index.jsp?geo_id=42&start_id
=4668&page_id=4695](http://www.fao.org/forestry/foris/index.jsp?geo_id=42&start_id=4668&page_id=4695)

International Centre for Integrated Mountain Development

- Forestry Focus
[www.icimod.org.sg/focus/
forestry/for_toc.htm](http://www.icimod.org.sg/focus/forestry/for_toc.htm)

International Centre for Research in Agroforestry

www.cgiar.org/icraf

International Union of Forestry Research Organizations

www.iufro.boku.ac.at

Mountain Forum on-line library

[www.mtnforum.org/resources/
resources.htm](http://www.mtnforum.org/resources/resources.htm)

CLOUD FORESTS – KEEPING THEIR “HEADS” IN THE CLOUDS

Cloud forests are among the world's unique ecosystems. Bathed in fog and mist, they provide food and shelter to thousands of people as well as untold numbers of plants and animals.

Yet, in as little as ten years time, the great majority of cloud forests may be gone – cleared for cattle grazing, logged and mined for resources and dried out by the effects of global warming and deforestation in lowland areas. As much as 90 percent of cloud forests in the northern Andes have already disappeared.

Cloud forests are the result of persistent, seasonal or frequent wind-driven clouds that blow over mountain regions and provide forests with moisture well above normal rainfall. In some cases, this additional moisture can amount to nearly 20 percent of ordinary

rainfall, or hundreds of millimetres of water. When cloud forests are cleared, the extra water extracted from the atmosphere is lost – along with the important functions that all forested headwaters play in maintaining water quality, stabilizing water flow and preventing hillside erosion.

As recently as 30 years ago, cloud forests ranged over more than 50 million ha in narrow mountain belts. Found in tropical and subtropical parts of the world, they exist at heights of as low as 500 m and as high as 3 000 m above sea level. In 1999, a number of conservation organizations, including the United Nations Environment Programme, the World Conservation Union and the World Wide Fund for Nature, launched a programme to raise awareness and promote conservation of cloud forests.

THE LAST OF THE GREAT COASTAL RAIN FORESTS

No other ecosystem on earth produces as much living matter as the world's coastal temperate rain forests. Found in wet, cool climates where marine air collides with coastal mountains and generates large amounts of rainfall, these giant forests create as much as 500 to 2 000 tonnes of wood, foliage, leaf litter, moss, plant life and soil per hectare. But far from wasteful, this immense organic output produces food and shelter for countless species of insects, reptiles, birds and mammals and also contributes directly to the health of ocean life nearby.

These distinct forest ecosystems have been depleted and, in many cases, completely destroyed by farming, urban development and unsustainable harvesting practices.

Once found on five continents, coastal rain forests survive only on two. Today only about 30 to 40 million ha of coastal temperate rain forest remain, mostly along 8 000 km of

coastline in Chile and the Pacific Northwest of North America.

Of the world's remaining coastal temperate rain forests, only 16 percent are protected. Over two-thirds of the protected area is in Alaska.



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MOUNTAIN FORESTS FOR THE FUTURE

As mountain forests and all the life they harbour continue to vanish in many parts of the world, it is more important than ever for governments to find a balance between productive uses of forests and their protection.

To this end, one important step would be to recognize and support mountain people in their role as the primary guardian of mountain forests. Too often in the global market economy, the most widely accepted thing of value in a forest is timber. In mountain com-

munities, timber is often less important than the ecosystem that produces water for drinking and irrigation, and plants and animals for food, fodder and medicines.

Mountain people see the forest and not just the trees. Like everyone, they depend on the entire forest ecosystem for their survival. Mountain forest policies should acknowledge the needs of local communities first, before taking into consideration the interests of other parties, such as the commercial forestry and tourism sectors.

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